Supplemental Table 1

Angular gyrus

Case ID	Neuropathological diagnosis	PHF1	GT-7	GT-38	RD3	RD4
100440	AD	+	+	+	NT	NT
102149	CBD	+	-	-	NT	NT
110181	PSP	+	-	-	NT	NT
106309	PiD	+	-	-	NT	NT

Hippocampus

Case ID	Neuropathological diagnosis	PHF1	GT-7	GT-38	RD3	RD4
115892	AD	+	+	+	+	+
106239	AD	+	+	+	+	+
107536	AD	+	+	+	NT	NT
100666	AD	+	+	+	NT	NT
107718	AD	+	+	+	NT	NT
107696	AD	+	+	+	NT	NT
112648	AD	+	+	+	NT	NT
105398	AD	+	+	+	NT	NT
106761	AD	NT	+	+	NT	NT
108441	AD	+	+	+	NT	NT
106229	AD	NT	+	+	NT	NT
112964	CBD	+	-	-	-	+
105358	CBD	+	-	-	-	+
104281	CBD	+	_	NT	-	NT
114762	CBD	+	_	NT	-	NT
108196	CBD	+	_	NT	-	NT
116508	CBD	+	-	-	-	+
114348	PSP	+	+	+	+	+
111530	PSP	+	+/-	+/-	+	+
106959	PSP	+	+/-	+/-	+	+
112401	PSP	+	-	+/-	-	_
101483	PSP	+	-	-	-	+
114511	PSP	+	-	-	-	+
103782	PSP	+	+	+	+	+
104282	PSP	+	+/-	+/-	+	+

107667	PiD	+	-	-	-	+
111853	PiD	+	-	-	+	-
105564	PiD	+	-	-	+	+/-
107187	PiD	+	-	NT	+	-
106309	PiD	+	+/-	NT	+	+
106814	PiD	+	-	NT	+	+
108508	PiD	+	+/-	NT	+	+
115001	PiD	NT	-	-	NT	NT
118624	PART	+	-	-	-	-
118648	PART	+	+	+	+	+
112090	PART	+	+	+	+/-	+/-
118375	Normal	+	-	-	-	-
103053	Normal	+	+	+	+	+
106711	Normal	+	+	+	NT	NT
102391	Normal	+	+	+	NT	NT
104057.01	AD (no cognitive impairment)	+	+	+	+	+
118446	AD (no cognitive impairment)	+	+	+	+	+
106960	AD (no cognitive impairment)	+	+	+	NT	NT

Midfrontal cortex

Case ID	**Neuropathological diagnosis**	**PHF1**	**GT-7**	**GT-38**	**RD3**	**RD4**
112403	AD	+	+	+	NT	NT
107516	CBD	+	-	NT	-	NT
112401	PSP	+	-	+/-	-	+
101486	PSP	+	-	-	-	+
116508	PSP	+	-	+/-	-	+
114511	PSP	+	-	-	-	+
103782	PSP	+	+	+	+	+
105564	PiD	+	-	NT	+	+/-
106814	PiD	+	+/-	NT	+/-	+/-
111853	PiD	+	-	-	NT	NT

Locus coruleus

Case ID	Neuropathological diagnosis	PHF1	GT-7	GT-38	RD3	RD4
115892	AD	+	+	+	+	NT
106329	AD	+	+	+	+	NT
112964	CBD	+	-	-	+/-	NT
104282	CBD	+	+/-	+/-	+	NT
114348	PSP	+	+	+	+	NT
106959	PSP	+	+	+	+	NT
107667	PiD	+	-	-	+	NT
111853	PiD	+	-	-	+	NT
105564	PiD	+	+/-	+/-	+	NT
118624	PART	+	+/-	+/-	+	NT
118446	AD (no cognitive impairment)	+	-	-	+	NT
103053	Normal	+	+/-	+/-	+/-	NT

Pons

Case ID	Neuropathological diagnosis	PHF1	GT-7	GT-38	RD3	RD4
115892	AD	+	-	-	-	NT
106329	AD	+	-	-	-	NT
104057	AD	+	+/-	+/-	+/-	NT
112964	CBD	+	-	-	-	NT
105358	CBD	+	-	-	-	NT
104282	CBD	+	-	-	+/-	NT
114348	PSP	+	-	-	-	NT
111530	PSP	+	-	-	+/-	NT
106959	PSP	+	-	-	-	NT
107667	PiD	+	-	-	+/-	NT
111853	PiD	+	-	+/-	+/-	NT
105564	PiD	+	-	-	+	NT
118624	PART	+/-	-	-	-	NT
118648	PART	+	-	-	-	NT
112090	PART	+/-	-	-	-	NT
118375	Normal	+/-	-	-	-	NT

118446	AD (no cognitive impairment)	+	-	-	+	NT
103053	Normal	+	+/-	+/-	+/-	NT

Putamen and pallidum

Case ID	**Neuropathological diagnosis**	**PHF1**	**GT-7**	**GT-38**	**RD3**	**RD4**
118323	CBD	NT	-	-	NT	NT
103782	PSP	+	-	-	NT	NT
101407	PSP	NT	-	-	NT	NT

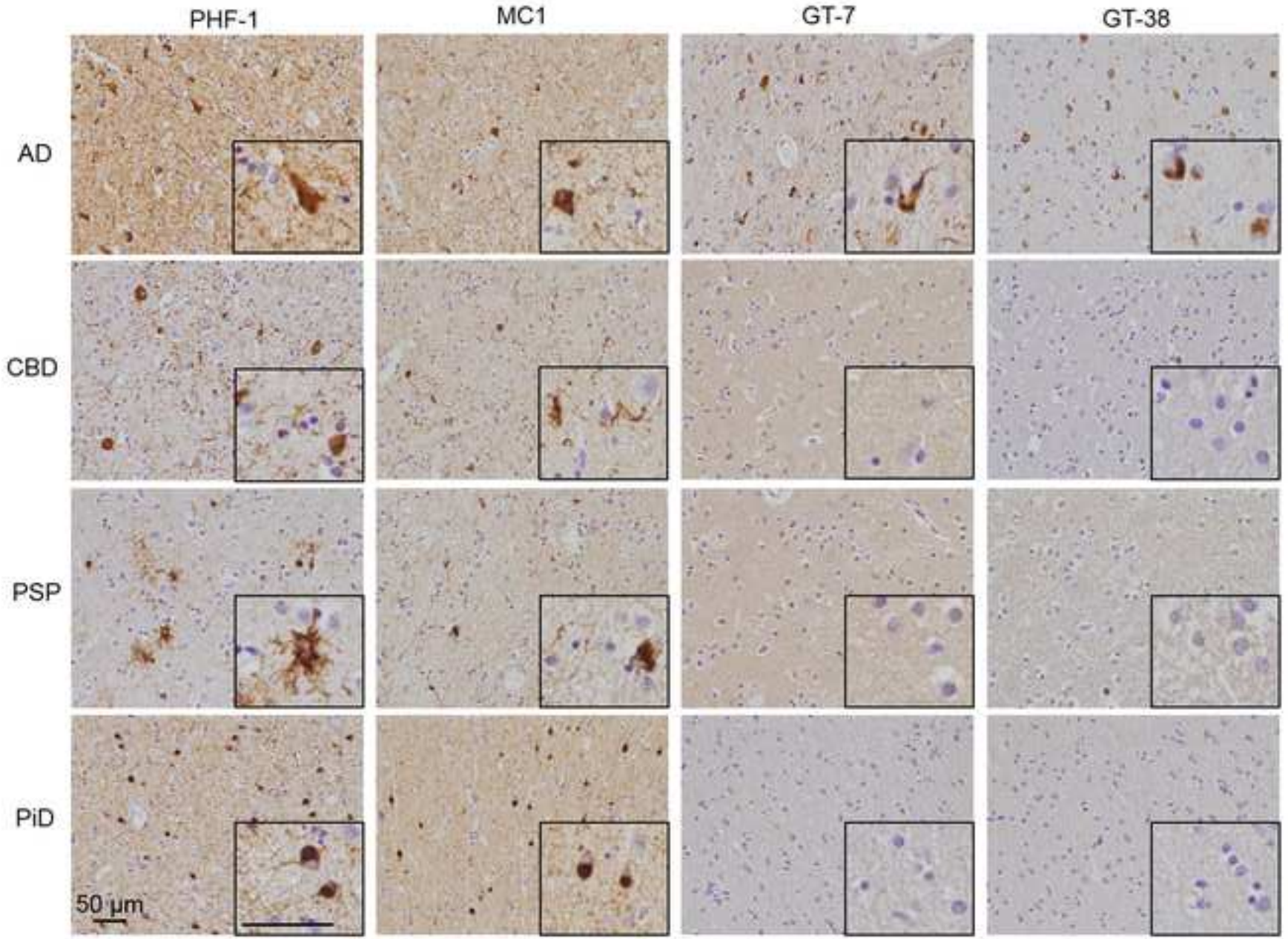
Anterior cingulate

Case ID	**Neuropathological diagnosis**	**PHF1**	**GT-7**	**GT-38**	**RD3**	**RD4**
104281	CBD	+	-	-	NT	NT

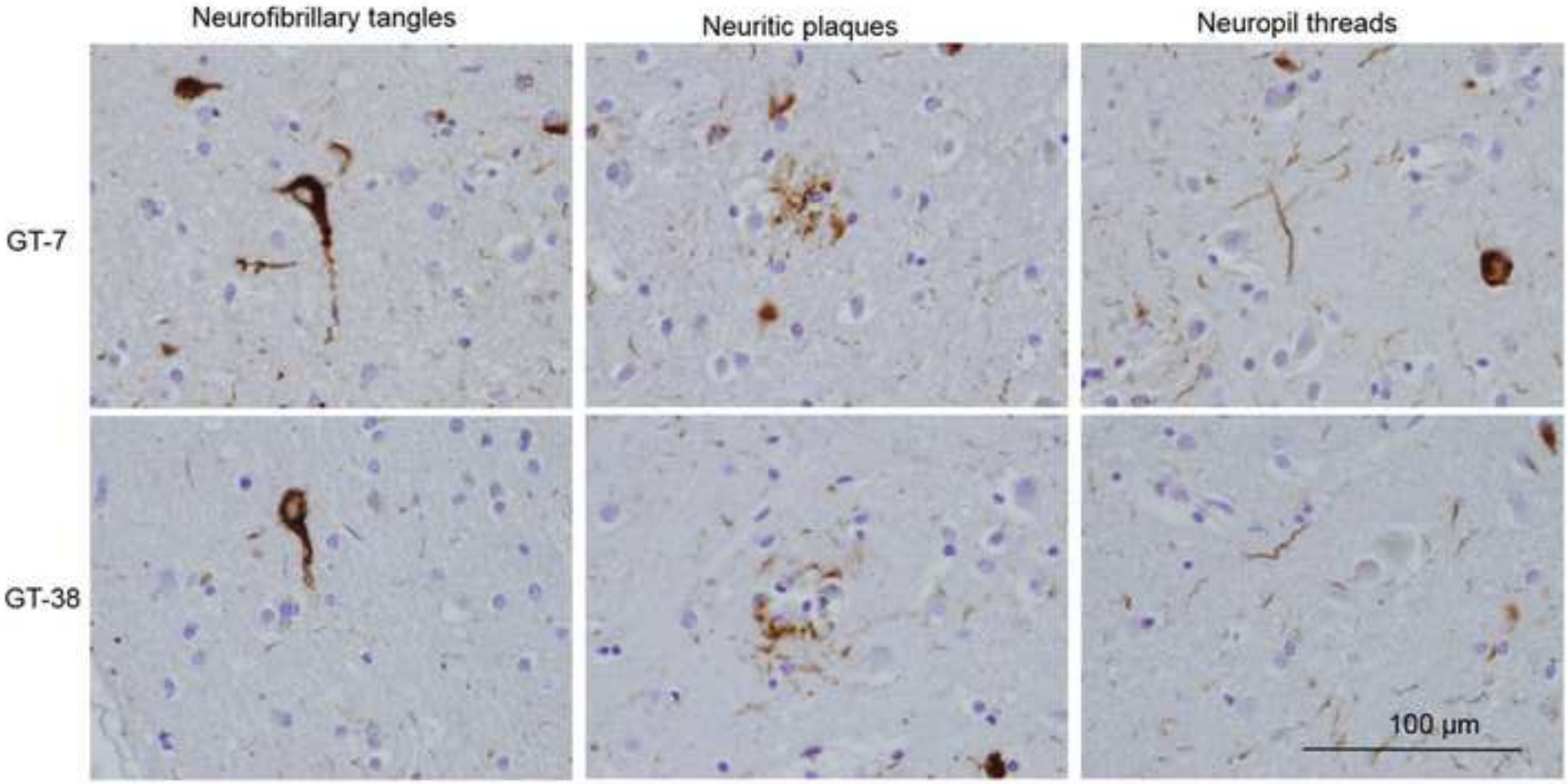
Substantia nigra

Case ID	**Neuropathological diagnosis**	**PHF1**	**GT-7**	**GT-38**	**RD3**	**RD4**
103782	PSP	+	-	+/-	+/-	+

Supplemental Table 1. Summary of antibody staining of brain regions from tauopathies and no cognitive impairment controls. PHF1, GT-7, GT-38, RD3, and RD4 antibody IHC staining is summarized for the angular gyrus, hippocampus, including transentorhinal cortex and dentate gyrus, midfrontal cortex, locus coeruleus, putamen and pallidum, anterior cingulate, and substantia nigra. Regions that were stained positive with antibody are indicated by +, regions that were negative for antibody staining are indicated by -, very weak or sparse staining is indicated by +/-, regions that were not tested with indicated antibodies are denoted by NT, not tested.



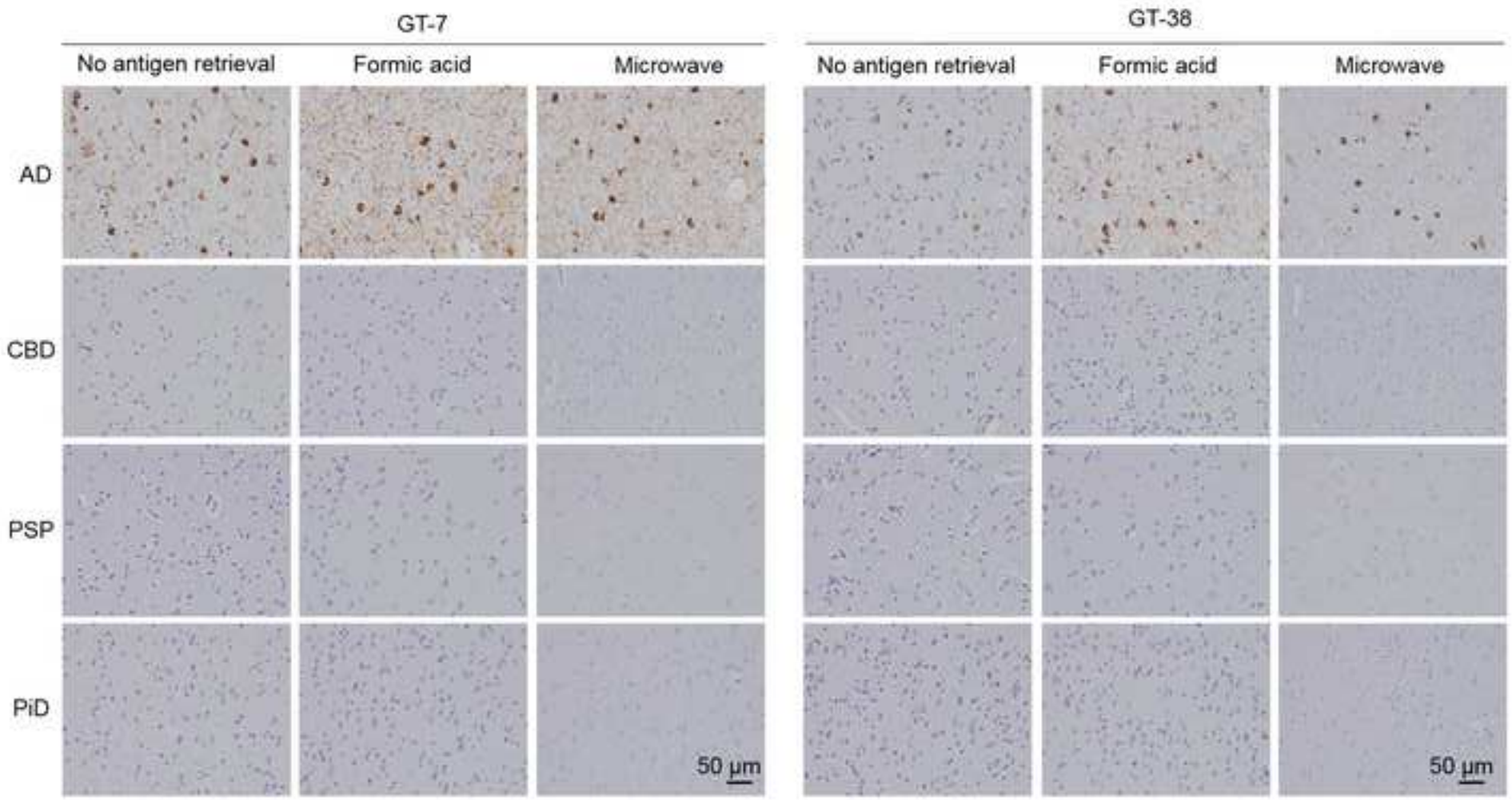
Supplemental Figure 1. Novel tau mAbs selectively label a subset of tauopathies by immunohistochemistry. Fixed, paraffin-embedded tissue from AD midfrontal cortex, CBD anterior cingulate, PSP putamen, and PiD midfrontal cortex were immunohistochemically stained with PHF1, conformation selective MC1, or novel AD-specific tau mAbs GT-7 and GT-38.



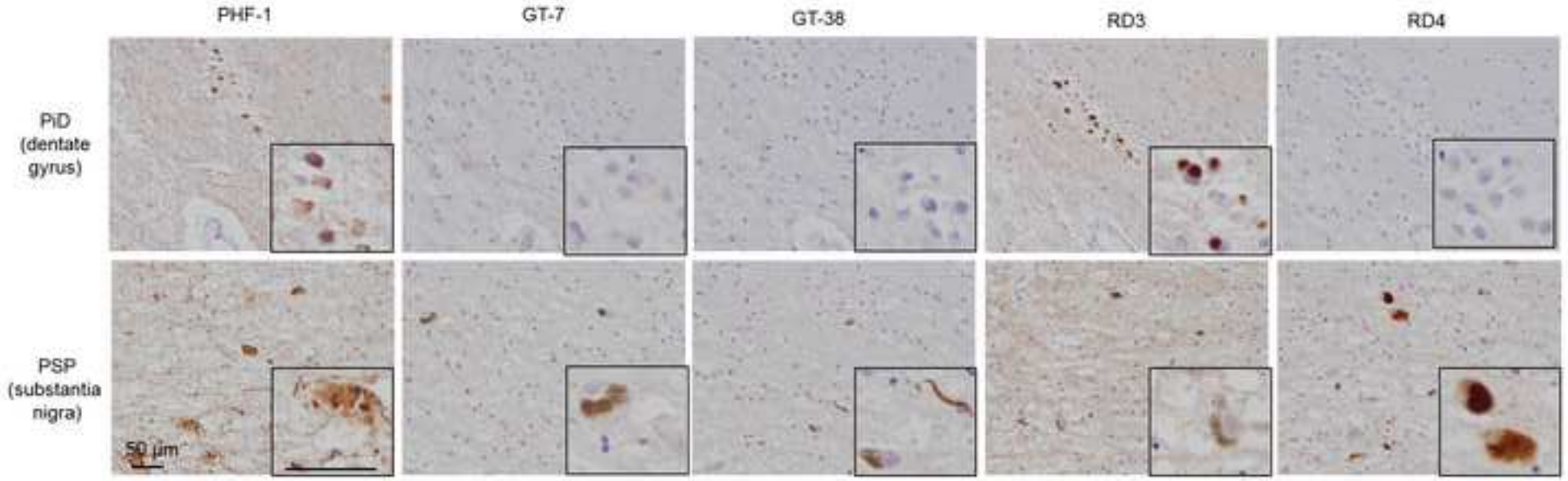
Supplemental Figure 2. GT-7 and GT-38 label NFTs, neuritic plaques, and neuropil threads, in AD. Fixed, paraffin-embedded tissue from AD hippocampus stained with GT-7 or GT-38 by IHC.

Supplemental Figure 3

Click here to download Supplemental Material In-Press References Supplemental figure 3.tif



Supplemental Figure 3. Antigen retrieval conditions do not influence GT-7 and GT-38 tauopathy selectivity. Fixed, paraffin-embedded tissue from AD hippocampus, CBD putamen, PSP putamen, and PiD hippocampus were pretreated with either formic acid or citric acid/microwave antigen retrieval techniques or no pretreatment for IHC staining with GT-7 or GT-38.



Supplemental Figure 4. Novel AD-specific tau mAbs GT-7 and GT-38 are negative or very rarely stain tau pathology in subcortical regions of PiD and PSP. PiD dentate gyrus dense pick bodies are negative for GT-7 and GT-38 immunoreactivity. PSP substantia nigra shows pigmented cells with tau pathology negative for GT-7 and a rare occasional neuropil thread detected by GT-38.